

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY
(PCT Rule 43*bis*.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/GB2004/004149

International filing date (day/month/year)
29.09.2004

Priority date (day/month/year)
30.09.2003

International Patent Classification (IPC) or both national classification and IPC
C09D11/00, C09D11/02, B41M5/30

Applicant
ARJO WIGGINS LIMITED

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1*bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**International application, No.
PCT/GB2004/004149**IAP20 Rec'd PCT/PTO 29 MAR 2006****Box No. I Basis of the opinion**

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/GB2004/004149

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Box No. II Priority

1. ☒ The following document has not been furnished:

☒ copy of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(a)).

☐ translation of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. ☐ It has not been possible to consider the validity of the priority claim because a copy of the priority document was not available to the ISA at the time that the search was conducted (Rule 17.1). This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

4. Additional observations, if necessary:

Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

| | | |
|-------------------------------|-------------|-------|
| Novelty (N) | Yes: Claims | 8,10 |
| | No: Claims | 1-7,9 |
| Inventive step (IS) | Yes: Claims | |
| | No: Claims | 1-10 |
| Industrial applicability (IA) | Yes: Claims | 1-10 |
| | No: Claims | |

2. Citations and explanations

see separate sheet

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING
AUTHORITY (SEPARATE SHEET)**

PCT/GB2004/004149

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Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Reference is made to the following document/s/:

- D1: EP-A-0 846 569
- D2: EP-A-1 092 551
- D3: WO 02/064376 A

1. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1-7 and 9 is not new in the sense of Article 33(2) PCT.

Re. claim 1: The document D1 discloses (the references in parentheses applying to this document):

a composition that can be printed (page 3, line 45) hence an ink comprising 3-dibuthylamino-6-methyl-7-anilino-fluoran as colour former (page 4, line 16, claim 6) , bisphenol A as colour developer (page 4, line 26-27, claim 3), DMT as sensitizer (claim 8) and a pigment (page 3, line 49).

Re. claim 9: D1 (see passages above) also discloses the use of a combination of 3-dibuthylamino-6-methyl-7-anilino-fluoran, bisphenol A , DMT and a pigment. The statement of the problem in the claim cannot be regarded as any additional technical feature of the claim.

D1 also discloses the additional features of present dependent claims 2-7 (page 3, line 47-58)

2. The document D2 is regarded as an equivalent prior art document to D1 and similar objections apply (see relevant passages in the International Search Report) .

3. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 8 and 10 does not involve an inventive step in the sense of Article 33(3) PCT.

Re. claim 8: The document D1 is regarded as being the closest prior art to the subject-matter of claim 8 and discloses a method as describes in item 1. above whereby separate dispersions are made for each component (page 4, lines 55-56).

The subject-matter of claim 8 therefore differs from D1 in that the colour former and DMT are grinded together and in a separate operation; colour developer and DMT are grinded together; and subsequently both mixtures are blended together.

The features proposed in claim 8 of the present application cannot be considered as involving an inventive step (Article 33(3) PCT) for the following reasons. There is no indication in the present application that such a procedure would involve any unexpected effects or could lead to solving any additional problem remaining in the art. Therefore it is mainly regarded as a procedural obvious alternative from which the skilled man would choose.

Re. claim 10: The document D3 is regarded as being the closest prior art to the subject-matter of claim 10, and discloses (the references in parentheses applying to this document): the use of a thermal ink (claims, page 5, 2nd §) comprising a dye, DMT, pigment and a developer and a surface coating comprising a pigment (clay coating, page 7, 1 st §). The subject-matter of claim 10 therefore differs from D3 in that the dye is said to be 3-dibuthylamino-6-methyl-7-anilino-fluoran and the developer is bisphenol A.

These ingredients for a thermal ink are however extremely well known components for such an ink and the ink as described in present claim 10 is for example disclosed in D1 (see passages under item 1. above). The selection of these components can therefore not be regarded as involving an inventive step, especially as the problem of avoiding discolouration i.e. improving storage stability addressed by present application is already mentioned and solved in D1, page 2, lines 21-24.